HOVENSA
ENVIRONMENTAL
RESPONSE TRUST

AUGUST 30, 2021

PROJECT NO: 16-102
VIA US MAIL

CERTIFIED MAIL NO. 7020 0090 0000 7804 6289
RETURN RECEIPT REQUESTED

Ms. Carol Stein
U.S. Environmental Protection Agency – Region 2
290 Broadway
New York, NY 10007-1866

RE: Response to EPA's July 29, 2021 Review of the March 2, 2021 Second Semiannual 2020 Corrective Action Status Report
Bankruptcy Case No. 1: 15-bk-10003-MFW; EPA ID No. VID980536080

Dear Ms. Stein:

Pursuant to the obligations under the February 17, 2016 HOVENSA Environmental Response Trust (ERT) Agreement, the ERT submits with this letter the response to EPA's July 29, 2021 Review of the March 2, 2021 Second Semiannual 2020 Corrective Action Status Report.

Under separate cover, the ERT has submitted the August 30, 2021 First Semiannual 2021 Corrective Action Status report, and, where applicable, EPA's July 29, 2021 comments have been addressed in this report.

As per Condition G of Permit Module I, *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Sincerely,

Roberto Puga, P.G.
Agent of PathForward Consulting, Inc., solely in its capacity as Trustee for the HOVENSA Environmental Response Trust

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Mr. Craig Miller, Limetree (via electronic mail)
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Former HOVENSA, L.L.C. Site

St. Croix, U.S. Virgin Islands

Response to EPA's July 29, 2021 Comments Regarding Technical Review of the March 2, 2021 Second Semiannual 2020 Corrective Action Status Report, Former HOVENSA, L.L.C. Site, St. Croix, U.S. Virgin Islands, EPA RCRA I.D. No: VID980536080

HOVENSA ENVIRONMENTAL RESPONSE TRUST

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August 30, 2021

On September 15, 2015, HOVENSA, L.L.C. filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code in the District Court of the Virgin Islands, Bankruptcy Division [Case No. 15-10003]. HOVENSA, L.L.C.'s Chapter 11 Liquidation Plan, confirmed by the Court on January 20, 2016 and effective February 17, 2016, provided for the creation of the HOVENSA Environmental Response Trust (ERT). Under the Environmental Response Trust Agreement, filed with the Court and effective February 17, 2016, the HOVENSA ERT has assumed responsibility for certain environmental requirements including the activities required by the RCRA Part B Permit No. VID980536080 (the "Permit"). In a letter dated May 2, 2017, EPA approved a Class 1 Permit Modification effectively transferring the Permit to the ERT.

The following Response to Comments (RTC) from U. S. Environmental Protection Agency's (EPA) technical comment letter dated July 29, 2021, of its review of the March 2, 2021 Second Semiannual 2020 Corrective Action Status Report. Responses are in bold text.

EPA Response Dated July 29, 2021

EPA Letter:

The U.S. Environmental Protection Agency (EPA) has reviewed the March 2, 2021 Corrective Action Status Report (CAS), for the former HOVENSA LLC facility, located in St. Croix, US Virgin Islands. This CAS details RCRA corrective action activities conducted at the facility during the second half (July through December) of 2020. EPA's review indicates that for the most part, the HOVENSA ERT (ERT) is continuing to implement the monitoring and corrective action as required under the Part B Permit and the 2009 Draft Corrective Measures Implementation (CMI) Workplan. The enclosed comments identify the need to thoroughly identify leaks and repairs occurring during each reporting period, as well as the source of any new contamination. The comments also note the need to update the Quality Assurance Project Plan. EPA had transmitted draft comments to the HOVENSA ERT via email dated July 20, 2021. There are no substantial changes to the draft comments.

REVIEW OF THE
CORRECTIVE ACTION STATUS REPORT
JULY TO DECEMBER 2020
HOVENSA ENVIRONMENTAL RESPONSE TRUST
DATED MARCH 2, 2021

I. General Comments

EPA General Comment 1:

Identifying and documenting leaks and repairs: Based on a discussion between the HOVENSA ERT and EPA on July 8, 2021, EPA's understanding is that only scheduled repairs of tanks and equipment have been included in Attachment 8 (Activities Conducted by Limetree Bay Terminals), and that there may have been other releases and repairs which are not accounted for in Attachment 8. Please note that according to Attachment III-4/5, Section A.5. of the 03-25-2015 modification to the RCRA Part B Operating Permit (originally issued 11-01-1999), *any repairs to product lines shall be documented and submitted to EPA in the CAS Report following such repair*. Additionally, please note that according to Attachment III-4/5, Section B.6 of that permit modification, *any repairs to oily water sewer lines (OWS) lines shall be documented and submitted to EPA in the CAS Report following such repair*. Finally, please note that Attachment III-4/5, Section C.8, *Any repairs [to tanks] shall be documented and submitted to EPA in the CAS Report following such repair*. Hence, please submit all records of releases and repairs to product lines, oily water[sic] sewer lines, and tanks in semi-annual Corrective Action Status reports.

Additionally, although newly identified contamination is being addressed in Section 3 (New Occurrences of PSH) of the report, the source of that contamination is not always clear. In future semi-annual reports, please also identify all newly identified sources of contamination.

Response:

The ERT and Limetree met on August 16, 2021 to discuss EPA's request for: 1) information on releases from and repairs to oily water sewer lines, underground product lines and tank floors, and 2) EPA's request to clarify the source of newly identified contamination discussed in Section 3 of the Corrective Action Status reports.

The ERT and Limetree agree with EPA that items A.5., B.6., and C.8. of Attachment III-4/5 of the modified Permit that require ongoing and routine repairs to the oily water sewer lines, underground product lines and above ground tank floors need to be documented and submitted in the corresponding CAS report following such repair. These requirements became effective on March 30, 2015, when EPA issued a letter approving a Class 3 Modification of the Permit. Subsequently, on September 15, 2015, HOVENSA, L.L.C. filed bankruptcy, and Limetree Bay Terminals, LLC purchased the terminal and above-grade refining assets per the terms of the January 4, 2016 Asset Purchase Agreement. Limetree continued to provide the oily water sewer, underground piping and tank repair/maintenance data for the CAS reports utilizing the same tables HOVENSA, L.L.C. submitted. These tables include testing and repair information related to the oily water sewer system

and underground lines, and inspections dates for applicable tank inspections. In an oversight, these tables were not updated to include repair information related to tanks, as required by the 2015 Permit modification. Limetree will gather the tank inspection and repair information as of March 30, 2015, and summarize this information in an addendum to the August 30, 2021 Semiannual CAS report.

The ERT and Limetree has routinely met to discuss the results of the "quarterly fluid level gauging events" conducted at the Site. During the call held to discuss the June 2021 data, Limetree indicated that additional review and investigation of potential sources was being conducted. This information will be compiled and submitted as an addendum to the August 30, 2021 CAS report.

The addendum to the August 30, 2021 CAS report will be submitted no later than November 15, 2021. Due to multiple changes within the Limetree organization, including the reduction of workforce, an earlier submittal might not be possible, however, Limetree has stated that the tank repair information and/or the source review information will be submitted sooner than November 15, if feasible to do so.

EPA General Comment 2:

A bioremediation study was performed in Remediation Area (RAA) 6B and results provided in Attachment 7. Results indicate that methanogenesis in groundwater may be the predominant process in this area of the site. Examination of Figure 2.5 indicates that only two wells in this area are exploring the use of BaroBall™ technology. It is unclear why more wells were not identified for trying to explore the use of this technology. It is also unclear why the study did not include an evaluation of vadose zone gases as a means to assess the potential for enhancing biodegradation in the vadose zone (please see Specific Comment 2, below for more details). Please provide additional detail as requested and proposed next steps to be taken to improve the ongoing corrective action activities.

Response:

The monitored natural attenuation (MNA) evaluation was performed at the discretion of the ERT to determine baseline conditions surrounding the occurrence of benzene at well 667. This baseline was determined in the event the dissolved concentrations at well 667 were to increase to levels above the Corrective Measures Implementation (CMI) goals in the future. Per the July 21, 2009 Area of Concern (AOC) Corrective Measures Implementation (CMI) workplan, well 667 is a plume well for RAA 6B. This study was not conducted to determine the efficacy of any potential remedial technologies and was not intended to present a path forward for additional corrective actions or to evaluate the use of BaroBalls™ at the Site. RAA 6A is currently in post-corrective action monitoring; corrective action is no longer conducted in this area and no plan to expand the use of BaroBalls™ is planned.

Upon further evaluation of the workplan requirements and the current status of RAA 6B, the ERT determined the BaroBalls™ should be removed from RAA 6B, as corrective measures are not required in the current timeline for RAA 6B (i.e. the

area is in post-corrective action monitoring and corrective action is no longer conducted at RAA 6B).

The two Baroballs™ in RAA 6B (well 667 and well 626) were initially installed by HOVENSA sometime between 2008 and 2010, and have remained in use since that time. The ERT is uncertain of what criteria was used to select the specific locations. It is understood however, the use of barometric bioventing, as stated in the September 22, 2010 Supplemental Remedial Technology Study, is most effective as a secondary polishing step following other remedial actions once PSH is removed. BaroBalls™ are identified as a "Feasible Remedial Option" that could be applicable for use in RAA 6B (as well as other areas) in the Supplemental Technology Study. The supplemental study was requested by EPA on March 12, 2010 as a part of CMI workplan review. Although identified as a potential option, BaroBalls™ are not specifically identified for implementation as corrective measures for RAA 6B in the 2009 CMI Workplan.

EPA General Comment 3:

Attachment 7 (Monitored Natural Attenuation (MNA) in RAA 6B) provides data for evaluating the natural attenuation potential for the aquifer. The conclusion is that although the chemical environment may support biodegradation, ongoing monitoring and a trend analysis would be required to determine the extent to which MNA processes may be currently occurring. Please note that an approved updated QAPP will needed prior to collecting this data, to support the integrity of the data collected. EPA cannot accept the ERT's conclusions regarding the efficacy of MNA at the site, without an approved revised QAPP. Additionally, since QAPPs normally should be updated every 5 years, a revised site-wide QAPP is indicated for the sitewide sampling and analysis activities at the former HOVENSA Site. Please use the Uniform Federal Policy for Quality Assurance Project Plans (last updated 2012) for updating the QAPP. The following is a link to the current UFP QAPP guidance: https://www.epa.gov/fedfac/assuring-quality-federal-cleanups

Response:

The ERT agrees that an updated QAPP is needed for the Site and that the QAPP should follow the Uniform Federal Policy for Quality Assurance Project Plans (UFP QAPP) guidance. The Site is a RCRA-Permitted Site and, as such, it is the ERT's understanding that the QAPP will be part of the Permit.

The Site currently operates under the RCRA Permit issued in 1999. Due to the timely submittal of a Permit application on May 1, 2009, the 1999 Permit remains in effect and the sampling and analysis plan in the Permit is utilized at the Site. The 1999 Permit will remain in effect until a renewed Permit is issued by EPA. The Permit application was originally submitted in May 2009 and has been modified and resubmitted to EPA based on EPA comments; multiple revisions were submitted between 2009 and 2014.

It is the ERT's understanding that EPA intends to move forward with a Permit renewal upon completion of review of the Corrective Action goals for the Site. The

shutdown of HOVENSA refining operations in 2012, HOVENSA's bankruptcy in 2015 and the sale of refining and terminal assets to Limetree Bay Terminals, LLC in 2016 prompted EPA to initiate additional review of the Corrective Action goals for the Site.

The pending Permit application contains a QAPP developed based on UFP QAPP guidance.

The ERT and EPA have discussed the pending Permit application and path forward multiple times since the ERT was established on February 17, 2016. The ERT is looking forward to continued discussion with EPA and a renewed Permit being issued for the Site; the ERT anticipates the renewed Permit will contain the updated QAPP. The ERT has also noted that a Permit modification can be utilized to include an updated QAPP into the existing Permit. The ERT also understands that such a Permit modification may require substantial resources from both EPA and the ERT, and, therefore, a renewed Permit may be the preferred path to obtaining approval of the updated QAPP included in the Permit application.

II. Specific Comments

EPA Specific Comment 1: Section 2.1, Page 9, 3rd paragraph

In this paragraph it is noted that the ERT vacuum truck was taken out of service in November 2020 due to multiple and significant mechanical issues and safety risks. While the vacuum truck was out of service, some vacuuming was proposed using the Limetree's fleet of vacuum trucks Based on a review of Table 2.4 it is unclear which trucks were used for what vacuuming activities and how many events originally proposed were missed and how future vacuuming events will be addressed. Any future vacuum efforts should also include removal rates and data. In the upcoming CAS Report, please indicate how the revised vacuuming events were conducted during the period ending June 30, 2021. Additionally, as an update, an email message from the ERT to EPA dated June 29, 2021, indicated that a replacement truck recently arrived on-site and that the vendor flew down to provide training on its use. Please document this in the next semi-annual CA status report, even though EPA understands that vacuuming from this replacement truck would not be addressed until the following semi-annual period.

ERT Response:

The ERT's vacuum truck was taken out of service in November due to significant mechanical issues and safety risks. After detailed evaluation of well evacuation technologies (including repair of the vacuum truck, vacuum truck replacement with a pre-owned or new unit, and alternative technologies), and taking initial capital and long term operational costs into consideration, the ERT determined replacement with a pre-owned vacuum truck was the best overall fit for periodic well evacuations at the Site. The replacement truck was put into service on June 29, 2021, and one day of vacuuming occurred before the close of the report period on June 30, 2021. The replacement vacuum truck remains in operation.

For clarification, periodic fluid extraction by means of a vacuum truck did not occur at the site from November 2020 through June 29, 2021.

Section 2.1 of the March 2, 2021 semiannual report states, "The ERT also notified Limetree that the ERT's vacuum truck was taken out of service and that the ERT was willing to continue vacuuming at Limetree's request utilizing a truck from Limetree's fleet." For clarification, when the ERT informed Limetree that the ERT's vacuum truck was out of service, the ERT offered to continue vacuuming the group of wells potentially impacted by Limetree operations (i.e. the wells Limetree has requested the ERT vacuum); this continued vacuuming would have been accomplished by Limetree utilizing one of their vacuum trucks to conduct the well vacuuming (i.e. Limetree would have operated their vacuum truck to complete the work, as the ERT is not authorized to operate Limetree's vacuum trucks). Due to Limetree's workload at the time, Limetree was not able to make any of their vacuum trucks available for well vacuuming, and, thus fluid extraction via vacuum truck did not occur at the Site from November 2020 through June 21, 2021 (i.e. from the time the ERT's vacuum truck was taken out of service until the ERT was able to secure a replacement vacuum truck).

The ERT operates with a single vacuum truck in its fleet of heavy equipment. Table 2.4 will be updated for all future reports to clarify the ERT vacuum truck is utilized for fluid extraction. If Limetree utilizes any of their trucks for well vacuuming, such information will be documented in Table 2.4.

As noted in Section 2.2 of the Corrective Action Status semiannual report, the amount of hydrocarbons recovered at the Site are estimated where down-hole pumps are utilized and are not estimated where vacuum trucks or booms are utilized. Where recovery pumps are utilized, the recovered hydrocarbon amounts can be estimated from runtime information and is not quantified by direct metering. Both HOVENSA and subsequently the ERT have explored means by which the amounts of hydrocarbon recovered via vacuum truck could be estimated or quantified. The potential methods of measuring or estimating the amount of hydrocarbon recovered at each well during vacuuming activities is quite cumbersome and not practical during routine activities; additionally, some of the potential methods inherently cause an increased safety and environmental risk. Though it is not practical to measure or quantify recovery volumes from individual wells during vacuuming events, the ERT will explore the possibility of estimating total volumes of recovered fluids for vacuuming events conducted during each report period. Though these total volumes of extracted fluids will not provide indication of the amount of recovered hydrocarbon (i.e. the oil/water ratio will remain unknown and therefore the amount of oil cannot be determined), and the total fluid volumes will not provide indication of recovery rates from specific wells or from specific areas at the Site, the EPA may find the total fluid (i.e. oil and water) extraction volumes useful. The ERT proposes further discussion via conference call with EPA to clarify whether or not estimated total extracted fluid volumes will be useful to the EPA and if the ERT should expend resources to estimate total extracted fluid volumes.

EPA Specific Comment 2: Section 2.1, Page 9, 4th paragraph

In this section it is noted that the BaroballsTM [sic] is being used for barometric bioventing. However, it is unclear what this means as BaroBall™ technology is generally used for passive soil vapor extraction and enhancing in situ bioremediation. According to the manufacturer, for BaroBall™ to work as a passive vapor extraction tool the inside well pressure differences need to be 7 to 10 millibars above atmospheric pressure before the valves are triggered to open in a passive venting mode. As no barometric pressure difference data is provided in the CAS Report or the associated attachments, it is assumed that the BaroBall™ technology is being used to shut in well gases at the site. Please expand on this and verify whether this is a correct assumption. In addition, it is unclear why the bioremediation study did not consider the collection of soil gas data. Given that the BaroBall™ technology is already being employed on site, biodegradation assessment should be expanded to include soil gas data with this data used to evaluate the potential for the employing enhanced bioremediation methods. Please provide future steps to be employed that include assessment of soil gas for the assessment of bioremediation.

Response:

Across the site, BaroBalls™ are installed in sixty-six (66) wells to facilitate passive barometric bioventing. A BaroBall™ contains a one-way valve system that creates pumping of air and vapors due to changes in ambient barometric pressure. Baroballs™ are constructed in two different configurations – one that passively removes vapors from the subsurface to the ambient air (i.e. vapor extraction) and one that contains an inverted assembly that introduces and traps ambient air into the subsurface for stimulation of biodegradation (i.e. bioventing).

HOVENSA installed the inverted type that introduces ambient air into the formation surrounding the well, enhancing biodegradation within the vadose zone. As noted by EPA, BaroBalls™ function as ambient atmospheric barometric pressures change due to diurnal fluctuations and weather events. Specifically, the "cracking pressure" for BaroBalls™ is as little as one millibar change in atmospheric pressure. This is in contrast to what is noted above in EPA specific comment #2 that is relative to "other" check valves cited in the product literature, where a pressure differential of greater than 7 to 10 millibars is required to overcome the cracking pressure.

BaroBalls™ operating in bioventing mode serve to increase oxygen supply in the subsurface (i.e. vadose zone and capillary fringe) for increased biodegradation capacity. BaroBalls™ are more effective in areas where the depth to the well screen location is very deep or in areas that have an impermeable overburden (e.g. concrete or asphalt surface).

The BaroBalls™ were initially installed by HOVENSA beginning in 2008, and have remained in use since that time. Although the locations that these were installed in have been maintained, active monitoring of the conditions induced by the BaroBalls™ presence is not performed (i.e. pressure differential or soil gas monitoring). The ERT is uncertain what initial monitoring and evaluation was performed, if any, by HOVENSA during the initial BaroBall™ installation, and has

yet to locate any documentation specific to their implementation. As such, other than typically being installed where either PSH or DPH was observed, the ERT is uncertain of what criteria was used to select specific locations.

HOVENSA's September 22, 2010 Supplemental Technology Study identifies BaroBalls™ as technologies in use as corrective measures at RAA 1A, RAA 9A and RAA 9D. RAA 6B is not listed in the 2010 study. As noted above, the ERT is uncertain what initial monitoring and evaluation, if any, was performed.

The ERT suggests further discussion with EPA regarding the use of BaroBalls™ at the Site and EPA's request for additional assessment. HOVENSA's wind-down budget did not include additional assessment for the use of BaroBalls™, and as such, any additional assessment would impact the ERT's ability to complete other required tasks.

EPA Specific Comment 3:

EPA recognizes that Attachment 1, Figure 1.1 includes a site location map, showing where the facility is located within the Island of St Croix, is included in Attachment 1, For ease in locating this figure, it also should be included within the Figures section accompanying the main document.

Response:

The site location figure included as Attachment 1, Figure 1.1 has been added to the primary Corrective Action Status Report as Figure 1.1 in the August 30, 2021 semiannual report.